

### Phytochemical composition, cytotoxicity and *in-vitro* antiplasmodial activity of fractions from *Alafia barteri* olive (Hook F. Icon)-*Apocynaceae*

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The ethanolic extract of *Alafia barteri* (Hook F. Icon) was dissolved in distilled water and successively partitioned in n-hexane, chloroform, ethyl acetate and n-butanol. The fractions were evaluated for phytochemical composition, lethality against brine shrimp larvae and *in-vitro* antiplasmodial activity against *Plasmodium falciparum* strain. The obtained results revealed that the roots and leaf extracts of *A. barteri* exhibited broad spectrum of antiplasmodial activity (IC<sub>50</sub> 1.5±0.7 - 6.2±0.80 µg/mL). The aqueous leaf fractions displayed the most potent antiplasmodial activity with an IC<sub>50</sub> value of 1.5±0.7 µg/mL, which is comparable to

reference antimalarial drug (IC<sub>50</sub> value of 1.3±0.2 µg/mL). The leaf fractions displayed higher activity than the root extracts. The highest minimum lethal concentration (105.2±0.8 ppm) was exhibited by the aqueous leaf extract followed closely by the root extract (120.2±1.1 ppm). The leaf extracts contained higher polyphenols (45.3±0.85 mgGAE/g) and flavonoids (18.10±0.2 mgCTE/g) than the root extracts. The n-hexane and EtOAc extracts/fractions displayed lower activity on brine shrimp larvae.

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